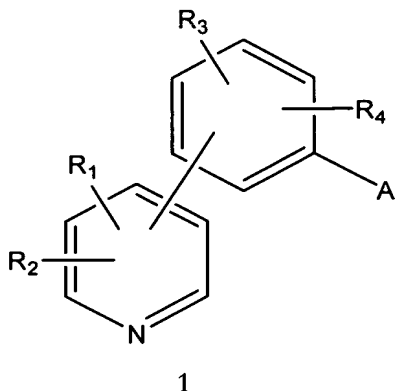
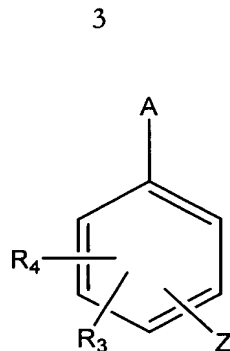
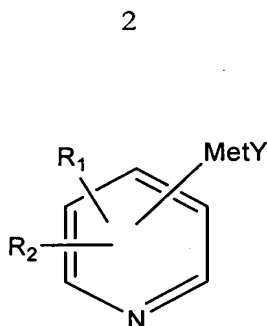


## Listing of Claims

1. (Original) A method for the preparation of compounds of formula 1,



in which a solution containing a compound of formula 2 is added dropwise to a solution containing a compound of formula 3



in which:

- Met represents Mg or Zn,
- Y represents Cl, Br, I or acetoxy,
- Z represents I, Br, Cl, triflate, sulphonate, phosphate,
- R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, which are the same as one another or different, represent hydrogen, a linear and/or branched C<sub>1</sub>-C<sub>4</sub> alkyl, and/or an aryl, and/or a heteroaryl, or R<sub>1</sub> and R<sub>2</sub> and/or R<sub>3</sub> and R<sub>4</sub>, taken together, form a C<sub>3</sub>-C<sub>8</sub> ring, an aryl and/or a heteroaryl,
- A represents -COR<sub>5</sub>, where R<sub>5</sub> represents hydrogen, a linear and/or branched C<sub>1</sub>-C<sub>4</sub> alkyl, and/or an aryl, and/or a heteroaryl, or
- A represents -CR<sub>5</sub>(OR<sub>6</sub>)(OR<sub>7</sub>) where R<sub>5</sub> has the meaning described above and R<sub>6</sub> and R<sub>7</sub>, which are the same as one another or different, represent a linear and/or branched C<sub>1</sub>-C<sub>4</sub>

alkyl, and/or an aryl, and/or a heteroaryl, or R<sub>6</sub> and R<sub>7</sub>, joined together, represent a C<sub>1</sub>-C<sub>8</sub> alkyl or alkenyl, in the presence of catalytic systems based on palladium or nickel.

2. (Original) A method according to Claim 1, characterized in that compound 2 is prepared by reaction of the corresponding halogeno-pyridine with a catalytic quantity of alkyl halide, in the presence of an at least stoichiometric quantity of magnesium.

3. (Original) A method according to Claim 2, characterized in that 100 moles of the halogeno-pyridine are reacted with 10-20 moles of alkyl halide and 100-120 moles of magnesium.

4. (Original) A method according to Claim 2, characterized in that the alkyl halide is a C<sub>1</sub>-C<sub>8</sub> alkyl chloride or bromide.

5. (Original) A method according to Claim 4, characterized in that the alkyl halide is ethyl bromide or isopropyl bromide or chloride.

6. (Original) A method according to Claim 1, characterized in that compound 2 is prepared by reaction of the corresponding halogeno-pyridine with an at least stoichiometric quantity of an alkyl-magnesium halide.

7. (Original) A method according to Claim 6, characterized in that the alkyl-magnesium halide is a chloride or a bromide of a C<sub>1</sub>-C<sub>8</sub> alkyl-magnesium salt, preferably an ethyl or isopropyl magnesium salt.

8. (Original) A method according to Claim 1, characterized in that the palladium and/or the nickel are used in quantities of 0.01-10 moles, preferably 0.05-2 moles, per 100 moles of compound 2.

9. (Original) A method according to Claim 1, characterized in that the solvent is an ethereal solvent, preferably THF, 1,2 dimethoxyethane, and/or 1,1-diethoxymethane, or a THF/toluene mixture.

10. (Original) A method according to Claim 1, characterized in that it is performed at a temperature of between 20 and 100°C, preferably between 40 and 80°C.

11. (Original) A method according to Claim 1, characterized in that it is performed in the presence of phosphines and/or phosphites.

12. (Original) A method according to Claim 11, characterized in that the phosphines and/or phosphites are used in a molar ratio of metal:phosphine/phosphite of between 1:1 and 1:6.

13. (Original) A method according to Claim 11, characterized in that the phosphines are selected from triaryl phosphines, diarylalkyl phosphines, trialkyl phosphines, and bidentate phosphines.

14. (Original) A method according to Claim 11, characterized in that palladium is used in the form of complexes with phosphines, preferably as  $\text{Pd}(\text{PPh}_3)_4$ .

15. (Original) A method according to Claim 11, characterized in that palladium is used in the salt form, generally in acetate or chloride form, in combination with a phosphine, preferably triphenyl phosphine.

16. (Original) A method according to Claim 11, characterized in that nickel is used in the form of complexes with phosphines, preferably bidentate phosphines.

17. (Original) A method according to Claim 1, characterized in that it is performed in the presence of zinc salts, preferably  $\text{ZnCl}_2$ ,  $\text{ZnBr}_2$  or  $\text{Zn}(\text{OAc})_2$ .

18. (Original) A method according to Claim 17, characterized in that the zinc salt is used in quantities of 25-120 moles, preferably 35-70 moles, per 100 moles of compound 2.

19. (Original) A method according to Claim 18 in which Met is magnesium, characterized in that 0.01-0.1 moles of palladium and 40-70 moles of zinc are used per 100 moles of compound 2.

20. (Original) A method according to Claim 17, characterized in that the molar ratio between palladium and compound 2 is less than 1:100.

21. (Original) A method according to Claim 1, characterized in that compound 2 is used in a dynamic deficiency relative to the zinc salt.

22. (Original) A method according to Claim 1, characterized in that 0.5-1.2 moles, preferably 1 mole, of compound 2 is used per 1 mole of compound 3.

23. (Currently Amended) A method for the preparation of heterocyclic azahexane derivatives with antiviral action, characterized in that it comprises a method according to ~~Claims 1-22~~ claim 1.